TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 580-16551-1

Job Description: Rainier Commons

For:
Clean Harbors Environmental Services Inc
19320 Des Moines Memorial Dr
Bldg D, Suite 400
Seatac, WA 98148

Attention: Shawn Estrada

Approved for release
Heather Curbow
Project Manager I
11/30/2009 11:33 AM

Heather Curbow
Project Manager I
heather.curbow@testamericainc.com
11/30/2009

TestAmerica Tacoma is a part of TestAmerica Laboratories, Inc.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan and meet all requirements of NELAC. All data have been found to be compliant with laboratory protocol, with the exception of any items noted in the case narrative.

TestAmerica Laboratories, Inc.
TestAmerica Tacoma 5755 8th Street East, Tacoma, WA 98424
Tel (253) 922-2310 Fax (253) 922-5047 www.testamericainc.com

ACCREDITED IN ACCORDANCE WITH nelac

Job Narrative
580-16551-1

Comments
No additional comments.

Receipt
All samples were received in good condition within temperature requirements.

GC Semi VOA
Method(s) 8082: Due to the high concentration of Aroclor 1260 and Aroclor 1254, the matrix spike / matrix spike duplicate (MS/MSD) for extraction batch 54133 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method(s) 8082: Samples 16551 - 1, 16558 - 1 and associated qc underwent silica gel cleanup.

No other analytical or quality issues were noted.

Metals
No analytical or quality issues were noted.

General Chemistry
No analytical or quality issues were noted.

Organic Prep
No analytical or quality issues were noted.

METHOD SUMMARY

Client: Clean Harbors Environmental Services Inc

Job Number: 580-16551-1

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Polychlorinated Biphenyls (PCBs) by Gas Chromatography	TAL TAC	SW846 8082	
Ultrasonic Extraction	TAL TAC		SW846 3550B
Metals (ICP)	TAL TAC	SW846 6010B	
Preparation, Metals	TAL TAC		SW846 3050B

Lab References:

TAL TAC = TestAmerica Tacoma

Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: Clean Harbors Environmental Services Inc

Job Number: 580-16551-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-16551-1	RC 161109	Solid	11/16/2009 0938	11/16/2009 1015

Client: Clean Harbors Environmental Services Inc

Job Number: 580-16551-1

Client Sample ID: RC 161109

Lab Sample ID: 580-16551-1
Client Matrix: Solid
% Moisture: 31.5

Date Sampled: 11/16/2009 0938
Date Received: 11/16/2009 1015

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 580-54231		Instrument ID:	TAC034
Preparation:	3550B	Prep Batch: 580-54133		Initial Weight/Volume:	10.1779 g
Dilution:	1.0			Final Weight/Volume:	10 mL
Date Analyzed:	11/18/2009 1838			Injection Volume:	
Date Prepared:	11/17/2009 1100			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.014
PCB-1221		ND		0.014
PCB-1232		ND		0.014
PCB-1242		ND		0.014
PCB-1248		ND		0.014

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	85		45 - 155
DCB Decachlorobiphenyl	71		60 - 125

Client: Clean Harbors Environmental Services Inc

Job Number: 580-16551-1

Client Sample ID: **RC 161109**

Lab Sample ID: 580-16551-1
Client Matrix: Solid
% Moisture: 31.5

Date Sampled: 11/16/2009 0938
Date Received: 11/16/2009 1015

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 580-54311	Instrument ID: TAC034
Preparation:	3550B	Prep Batch: 580-54133	Initial Weight/Volume: 10.1779 g
Dilution:	10		Final Weight/Volume: 10 mL
Date Analyzed:	11/19/2009 1350		Injection Volume:
Date Prepared:	11/17/2009 1100		Result Type: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1254		4.8		0.14
PCB-1260		3.7		0.14

Client: Clean Harbors Environmental Services Inc

Job Number: 580-16551-1

Client Sample ID: RC 161109

Lab Sample ID: 580-16551-1
Client Matrix: Solid

% Moisture: 31.5

Date Sampled: 11/16/2009 0938
Date Received: 11/16/2009 1015

6010B Metals (ICP)

Method:	6010B	Analysis Batch: 580-54640		Instrument ID:	SEA027
Preparation:	3050B	Prep Batch: 580-54569		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.0649 g
Date Analyzed:	11/24/2009 1836			Final Weight/Volume:	50 mL
Date Prepared:	11/24/2009 1216				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Lead		45		2.1

Client: Clean Harbors Environmental Services Inc

Job Number: 580-16551-1

Method Blank - Batch: 580-54133

Method: 8082
Preparation: 3550B

Lab Sample ID: MB 580-54133/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 11/18/2009 1807
Date Prepared: 11/17/2009 1100

Analysis Batch: 580-54231
Prep Batch: 580-54133
Units: mg/Kg

Instrument ID: TAC034
Lab File ID: PCB24948.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result	Qual	RL
PCB-1016	ND		0.010
PCB-1221	ND		0.010
PCB-1232	ND		0.010
PCB-1242	ND		0.010
PCB-1248	ND		0.010
PCB-1254	ND		0.010
PCB-1260	ND		0.010

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	98	45 - 155
DCB Decachlorobiphenyl	101	60 - 125

Lab Control Sample - Batch: 580-54133

Method: 8082
Preparation: 3550B

Lab Sample ID: LCS 580-54133/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 11/18/2009 1822
Date Prepared: 11/17/2009 1100

Analysis Batch: 580-54231
Prep Batch: 580-54133
Units: mg/Kg

Instrument ID: TAC034
Lab File ID: PCB24949.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
PCB-1016	0.100	0.0834	83	40 - 140	
PCB-1260	0.100	0.102	102	60 - 130	

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	95	45 - 155
DCB Decachlorobiphenyl	92	60 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Clean Harbors Environmental Services Inc

Job Number: 580-16551-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-54133

Method: 8082
Preparation: 3550B

MS Lab Sample ID:	580-16551-1	Analysis Batch: 580-54231	Instrument ID: TAC034
Client Matrix:	Solid	Prep Batch: 580-54133	Lab File ID: PCB24951.D
Dilution:	1.0		Initial Weight/Volume: 10.4179 g
Date Analyzed:	11/18/2009 1853		Final Weight/Volume: 10 mL
Date Prepared:	11/17/2009 1100		Injection Volume:
			Column ID: PRIMARY
MSD Lab Sample ID:	580-16551-1	Analysis Batch: 580-54231	Instrument ID: TAC034
Client Matrix:	Solid	Prep Batch: 580-54133	Lab File ID: PCB24952.D
Dilution:	1.0		Initial Weight/Volume: 10.4517 g
Date Analyzed:	11/18/2009 1909		Final Weight/Volume: 10 mL
Date Prepared:	11/17/2009 1100		Injection Volume:
			Column ID: PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
PCB-1016	81	96	40 - 140	17	20		
PCB-1260	-830	204	60 - 130	55	20	4	4 F

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	90	88	45 - 155
DCB Decachlorobiphenyl	69	65	60 - 125

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Clean Harbors Environmental Services Inc

Job Number: 580-16551-1

Method Blank - Batch: 580-54569

Method: 6010B
Preparation: 3050B

Lab Sample ID: MB 580-54569/10-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 11/24/2009 1742
Date Prepared: 11/24/2009 1216

Analysis Batch: 580-54640
Prep Batch: 580-54569
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL
Lead	ND		1.5

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch:

Method: 6010B
Preparation: 3050B

LCS Lab Sample ID: LCS 580-54569/11-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 11/24/2009 1747
Date Prepared: 11/24/2009 1216

Analysis Batch: 580-54640
Prep Batch: 580-54569
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1 g
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 580-54569/12-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 11/24/2009 1751
Date Prepared: 11/24/2009 1216

Analysis Batch: 580-54640
Prep Batch: 580-54569
Units: mg/Kg

Instrument ID: SEA027
Lab File ID: N/A
Initial Weight/Volume: 1 g
Final Weight/Volume: 50 mL

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Lead	95	95	80 - 120	0	35		

Calculations are performed before rounding to avoid round-off errors in calculated results.

DATA REPORTING QUALIFIERS

Client: Clean Harbors Environmental Services Inc

Job Number: 580-16551-1

Lab Section	Qualifier	Description
GC Semi VOA		
	4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
	F	RPD of the MS and MSD exceeds the control limits

Clean Harbors
ENVIRONMENTAL SERVICES®

CHAIN OF CUSTODY RECORD PAGE _____ OF _____ 16521

☐ 1 Hill Avenue, Braintree, MA 02184 Tel. (781) 849-1800
☐ 2202 Genoa Red Bluff Road, Houston, TX 77034 Tel. (281) 478-7700
☐ RTE. 2, Box 170, Waynoka, OK 73860 Tel. (580) 697-3500
☐ 5295 S. Garvey Road, Westmorland, CA 92281 Tel. (760) 344-9400
☐ 12400 247th Avenue SE, Sawyer, ND 58781 Tel. (701) 624-5622
☐ Other

Client: CLEAN HARBORS Project Name: Rainier Commons Work Order/P.O. #: _____ Date: 11/10/09

Report To: Shawn Estrada Address: _____ Phone #: _____

Sample I.D.	Sampling Information: Date	Time	Station Location	Sample Matrix	Analysis: 6010B LEAD	8082 PCB										# of con.	CHES Sample #
RC 161109	11/9/09			Solid	X	X											1

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Relinquished by Sampler: Adam Parker
Date: 11/10/09 Time: 1010

Received by: KP
Date: 11/10/09 Time: 1015

Relinquished by Sampler: _____
Date: _____ Time: _____

Received by: _____
Date: _____ Time: _____

	VOA Vial	Glass Bottle	Plastic Bottle	Preservation	Volume

DOT Shipping Name:

COMMENTS: (Fax Number, cautions, special instructions)

Standard laboratory turnaround time is 1 week from date of receipt. Accelerated turnaround may be assessed a surcharge.

Location of samples: _____

Turnaround: 24 Hrs. 48 Hrs. 1 Week Other: STD

CH 119

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RCLLC 0001491

Login Sample Receipt Check List

Client: Clean Harbors Environmental Services Inc

Job Number: 580-16551-1

Login Number: 16551
Creator: Presley, Kim
List Number: 1

List Source: TestAmerica Tacoma

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	Hand delivered
Cooler Temperature is acceptable.	True	Received within 4 hours of sampling
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Is the Field Sampler's name present on COC?	False	
Sample Preservation Verified	N/A	